CLAIMS

1. A manufacturing method for a polymer electrolyte fuel cell formed by laminating a first gas diffusion layer (6A) and a first separator (7A) onto one surface of a polymer electrolyte membrane (5), and laminating a second gas diffusion layer (6B) and a second separator (7B) onto another surface of the polymer electrolyte membrane (5), the method comprising:

applying an adhesive to a surface of the first separator (7A) which contacts the first gas diffusion layer (6A);

applying the adhesive to a surface of the second separator (7B) which contacts the second gas diffusion layer (6B);

disposing the first separator (7A), the first gas diffusion layer (6A), the polymer electrolyte membrane (5), the second gas diffusion layer (6B), and the second separator (7B) between a pair of pressing jigs (113, 123) so as to be laminated in the described sequence; and

obtaining an integrated fuel cell by applying heat and compression to the first separator (7A) and the second separator (7B) using the pressing jigs (113, 123).

2. The manufacturing method as defined in Claim 1, wherein the first separator (7A) comprises a groove form gas passage (7C) facing the first gas diffusion layer (6A), the adhesive applied to the first separator (7A) is applied to a partition wall portion (7F) defining the gas passage (7C), the second separator (7B) comprises the groove form gas passage (7C) facing the second gas diffusion

layer (6B), and the adhesive applied to the second separator (7B) is applied to the partition wall portion (7F) defining the gas passage (7C).

3. The manufacturing method as defined in Claim 1 or Claim 2, wherein a first catalyst layer (8A) and a second catalyst layer (8B) are coated onto the respective surfaces of the polymer electrolyte membrane (5) in advance, and as a result of the compression and heat applied to the first separator (7A) and the second separator (7B) by the pressing jigs (113, 123), the first gas diffusion layer (6A) is thermally compressed onto the first catalyst layer (8A) and the second gas diffusion layer (6B) is thermally compressed onto the second catalyst layer (8B).

4. The manufacturing method as defined in Claim 3, wherein an adhesive is applied to only certain locations of the first gas diffusion layer (6A) facing the first catalyst layer (8A), an adhesive is applied to only certain locations of the second gas diffusion layer (6B) facing the second catalyst layer (8B), and as a result of the compression and heat applied to the first separator (7A) and the second separator (7B) by the pressing jigs (113, 123), the first gas diffusion layer (6A) is thermally adhered to the first catalyst layer (8A) and the second gas diffusion layer (6B) is thermally adhered to the second catalyst layer (8B).

5. The manufacturing method as defined in Claim 1, wherein the adhesive includes a thermosetting resin.

6. The manufacturing method as defined in Claim 1, wherein the first separator

(7A) comprises a concave portion (7D) in a surface facing the pressing jig (113), and the pressing jig (113) comprises a convex portion (13) which fits into the concave portion (7D) in the first separator (7A).

7. The manufacturing method as defined in Claim 1, wherein the concave portion (7D) is a cooling liquid passage (7D) of the fuel cell.